STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

FOCAL COMMUNICATIONS CORPORATION OF ILLINOIS	)	
Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois	)	Docket No. 00-0027

VERIFIED STATEMENT

OF

DEBRA J. ARON

On Behalf of
AMERITECH ILLINOIS

February 7, 2000

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Witness
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I. QUALIFICATIONS AND ORGANIZATION OF TESTIMONY

Q. Please state your name and position.

A. My name is Debra J. Aron. I am the Director of the Evanston offices of LECG. My business address is 1603 Orrington Avenue, Suite 1500, Evanston, IL 60201.

Q. Please describe LECG.

A. LECG is an economics and finance consulting firm, providing economic expertise for litigation, regulatory proceedings, and business strategy. Our organization comprises more than 200 economists from academe and business, and has offices throughout the US and in six countries. LECG's practice areas include antitrust analysis, intellectual property, and securities litigation, in addition to specialties in the telecommunications, gas, electric, and health care industries. LECG is a unit of Navigant Consulting, Inc.

Q. Please describe your professional qualifications.

A. I received a Ph.D. in economics from the University of Chicago in 1985, where my honors included a Milton Friedman Fund fellowship, a Pew Foundation teaching fellowship, and a Center for the Study of the Economy and the State dissertation fellowship. I was an Assistant Professor of Managerial Economics and Decision Sciences from 1985 to 1992 at the J. L. Kellogg Graduate School of Management, Northwestern University, and a Visiting Assistant Professor of Managerial Economics and Decision Sciences at the Kellogg School from 1993-1995. I was named a National Fellow of the Hoover Institution, a think tank at Stanford University, for the academic year 1992-1993, where I studied innovation and product proliferation in multiproduct firms. Concurrent with my position at Northwestern University, I also held the position of Faculty Research Fellow with the National Bureau of Economic Research from 1987-1990. At the Kellogg School, I have taught M.B.A. and Ph.D. courses in managerial economics, information economics, and the economics and strategy of pricing. I am a member of the American Economic Association and the Econometric Society. Beginning in Fall of 2000, I will be Adjunct Professor in the Communications Studies Department at Northwestern University, teaching in their professional Masters program. My research focuses on multiproduct firms, innovation, incentives, and pricing, and I have published articles on these subjects in several leading academic journals, including the *American Economic Review*, the *RAND Journal of Economics*, and the *Journal of Law, Economics, and Organization.*

I have consulted on numerous occasions to the telecommunications industry on strategic and efficient pricing. I have testified in several states regarding the proper interpretation of Long Run Incremental Cost and its role in pricing; the economic interpretation of pricing and costing standards in the Telecommunications Act of 1996 ("TA96"); limitations of liability in telecommunications; Universal Service; and proper pricing for mutual compensation for call termination. I have conducted empirical studies of competition in local service and in high capacity services markets, and have submitted Affidavits to the Federal Communications Commission on several issues, including forbearance from regulation of high capacity services in Illinois; the proper interpretation of the "necessary and impair" standards of Section 251(d)(2) of TA96 for determining which elements should be mandatory unbundled; and explaining proper economic principles for recovering the costs of permanent local number portability. I have conducted analyses of mergers in many other industries under the U.S. Merger Guidelines. In addition, I have consulted in other industries regarding potential anticompetitive effects of bundled pricing and monopoly leveraging, market definition, and entry conditions, among other antitrust issues, as well as matters related to employee compensation and contracts, and demand estimation. In 1979 and 1980, I worked as a Staff Economist at the Civil Aeronautics Board studying price deregulation of the airline industry. In July 1995, I assumed my current position at LECG. My professional qualifications are detailed in my curriculum vitae, which is attached as Schedule DJA-1.

Q. Please explain your understanding of the purpose of this proceeding.

A. This proceeding was established under Section 252 of TA96 as an arbitration of outstanding interconnection issues between Focal Communications Corporation of Illinois ("Focal") and Ameritech Illinois ("Ameritech"). As I understand it, the two parties have been unable to reach a negotiated agreement on certain issues, one of which pertains to the provisioning of facilities for Focal's foreign exchange services. This issue has been termed "Issue 4" in this arbitration, and the relevant language in dispute is contained in Section 4.3.12 of the draft interconnection agreement between the parties. Mr. David Tatak of Focal filed a verified statement explaining Focal's objections to the proposed contract language on this issue. Since that time, Ameritech has offered revised language for Section 4.3.12.

Q. What is the purpose of your verified statement?

A. I address Issue 4: Focal's foreign exchange services and the need to establish Points of Interconnection ("POIs") in a way that prevents Focal from imposing on Ameritech (at a minimum) the cost of interexchange transport that properly should be the responsibility of Focal and its customer.

Specifically, the purpose of my verified statement is to discuss the economics of Focal's foreign exchange service offerings in the context of Ameritech's proposed contract language.

Focal's foreign exchange service potentially could be a legitimate and economically valuable service offering, but the way in which it is provisioned today creates an economic harm. The present system, without the safeguards proposed by Ameritech, involves an element of "gaming the system" in which Focal makes money not by offering a better product at a good price, but by manipulating the NPA-NXX number system to get a free ride from Ameritech's network.

My verified statement explains how Focal's foreign exchange service free-rides on the Ameritech network, why this is inefficient and damaging to competition, and how Ameritech's revised language for Section 4.3.12 is a reasonable resolution to the free-rider problem. Ameritech's language for Section 4.3.12 permits Focal to offer its service in a way that Focal shoulders its own transport costs associated with the service. My testimony also explains why Ameritech's revised contract language addresses the objections raised by Mr. Tatak to the previously proposed language.

Q. Please describe the organization of your verified statement.

A. In Section II, I describe how Focal's foreign exchange service signals Ameritech to bill Ameritech's own customers for Band A calls that in fact are terminated to customers outside the Band A calling area. Ameritech's proposed contract language specifies that Ameritech only be required to transport calls within a 15-mile area (within which Band A and Band B calls fall).[1] If Focal is not required to provide points of interconnection as indicated in the proposed language, Focal would literally be "free-riding" on Ameritech's network. This would give Focal a competitive advantage that would not be based on a legitimate cost advantage or product improvement, but rather on Focal's use of the NPA-NXX system in a way that imposes costs on Ameritech.

In Section III, I explain why Focal's foreign exchange ("FX") service would be anticompetitive in the absence of the requirements of Ameritech's proposed contract language. Finally, in Section IV, I explain why the language proposed in Section 4.3.12 is an appropriate resolution to the free-rider problem created by Focal's FX service. Ameritech's proposal restores efficiency where free riding distorts it, and is indeed generous, because it offers to provide Focal with significantly more transport than Ameritech provides in a typical Band A call.

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1 In my verified statement, the term "transport" should be taken as a general term meaning "to move traffic from point A to point B" and is not intended to refer to any particular service offering.

II. FOCAL'S VO SERVICE "FREE-RIDES" ON THE AMERITECH NETWORK

Q. Could you briefly describe Focal's foreign exchange services?

A. My understanding is that Focal's "Virtual Office," or "VO" service, is a foreign exchange service that is typically offered to business customers seeking to reduce their employees' costs of dialing into corporate servers. Focal achieves these savings to telecommuters by securing NPA-NXX prefixes, associating these prefixes with rate centers located around the Chicago metropolitan area, and assigning the telephone numbers to VO subscribers physically located elsewhere, such as in downtown Chicago. Another type of customer of Focal's VO service might be chat-line providers,[2] who seek to attract callers to the chat lines by offering the service as a flat-rated local call. Focal also offers a similar service, targeted at Internet Service Provider (ISP) customers, called "MX" service. I will use the terms "foreign exchange" and "Virtual Office service" interchangeably in my verified statement to refer to all of Focal's FX-like offerings.

To understand the service, suppose a company located in downtown Chicago wants to provide chat-line services. This company might plan to market its chat lines to residential customers all around the Chicagoland area, and would like to give those customers (most of whom get their local service from Ameritech, not Focal) the opportunity to make those chat-line calls on an untimed (Band A) basis.

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2 A "chat line" is like a publicly available conference call where multiple callers can dial in to talk to one another.

The chat-line provider could contract with Focal for multiple telephone lines. Focal provides the chat-line provider with phone numbers bearing NPA-NXX codes that are associated with calling areas outside of Chicago, say in Elgin. This provides an Elgin end-user with the opportunity to call the chat line physically located in downtown Chicago (normally a Band C call) at the Band A (flat) rate, which is about 5¢ per call.

As I understand it, absent any type of foreign exchange service, the standard wireline industry practice is to assign telephone numbers associated with a particular rate center to customers located in that rate center. For example, Ameritech might assign customers in the Elgin rate center the 847-741 prefix. The NPA-NXX designations of the calling number and called number are used by the circuit switches of Ameritech and other LECs to calculate the distance between the two parties. Ameritech Illinois uses this information to determine whether the originating party should be billed for a Band A, B, or C call.[3] Similarly, I understand that other LECs use this data for distance-sensitive billing purposes.

However, to create its FX service, Focal deviates from the usual industry practice and assigns an Elgin-based NPA-NXX to its customers geographically located outside of the

[3] A "rating center" is designed for regulatory/billing purposes and historically has been defined as a geographical footprint around the local exchange carrier's end-office that serves a particular customer. The actual rate center is a single point with which NPA-NXX codes are associated for distance-sensitive rating purposes, and throughout this testimony I will use the term "rate center" to refer to this *point*, and not to the geographical area around it. When a call is made from one rating center (area) to another, the V & H coordinates (similar to longitude and latitude) of the "originating" and "terminating" rate centers (points) are used to compute the airline distance of the call, which is then used to designate a call as Band A, Band B, or Band C. In most cases in Ameritech Illinois' territory, if the distance between rate centers is less than eight miles, it is a Band A call; calls traveling 8-15 miles are designated as Band B; and calls traveling more than 15 miles are defined as Band C toll calls.

traditional Elgin rate center service area. As a result, Ameritech's billing system treats any call from an Ameritech customer to that Elgin number as a call to Elgin, even though the call really is being transported to Focal's FX customer located, for example, in downtown Chicago. Because the switches use the NPA-NXX comparison as the way to determine billing treatments, the Ameritech switch has no way of knowing where a call to the Focal customer actually terminates after it reaches the Focal POI, or how to bill it except to rely on the standard industry practice for NPA-NXX code assignments.

Chat-line customers residing in Elgin would be instructed by the chat-line provider (who, again, is the Focal VO subscriber) to use the Elgin-prefaced number when they call the chat line. Therefore any call by an Ameritech customer in Elgin to the chat-line provider will be treated by Ameritech and billed to that customer as a Band A call.

Q. Focal claims that its VO service is "identical" to Ameritech's Foreign District service.[4] Are the services identical?

A. Mr. Panfil addresses this issue more fully from an operational and provisioning standpoint. I can address the issue from an economic and policy standpoint.

Focal's VO service may well be similar or identical to Ameritech's Foreign Exchange (FX) services in the eyes of the consumer (inasmuch as both provide callers a way to call FX subscribers in far-flung exchanges at local (Band A) rates), but the services are quite different in the way that costs are borne. A chat-line provider that wants to purchase FX service from Ameritech pays for the service in a way that compensates Ameritech for the

4 Verified Statement of David Tatak, Illinois Commerce Commission Docket No. 00-0027, p. 8.

costs that are imposed on Ameritech as a result of offering the service. In contrast, Focal's VO service as currently configured gets a free ride from its use of the Ameritech network. Accordingly, from an economic and policy perspective there are significant differences between Focal's VO service and Ameritech's FX services.

Q. Please describe how Focal's VO service free-rides on Ameritech's network.

A. Focal's VO service has the effect of transporting the call from an Elgin-based Ameritech end-user on Ameritech facilities to the Focal POI while billing that Ameritech end-user for a local (Band A) call.[5] At present, Focal's POI may be located well outside of the Elgin end-user's local calling area. Yet Ameritech receives compensation from the end-user only for a local call.

As a result, Focal, Focal's VO customer (whom I will refer to as a chatroom provider for simplicity of exposition, but the points apply to any VO customer), and the Ameritech end-user benefit from Focal's VO service: Focal gets paid for the VO service by the chatroom provider, the chatroom provider can provide local numbers to its customers and thereby attract more customers than if customers had to pay toll rates, and end-users can make toll calls to the chatroom for a nickel.

Ameritech, however, bears the costs of the originating switching and transport all the way up to the Focal POI. If Ameritech is required to transport the call beyond the local calling area, Ameritech is not compensated for the costs of this additional transport. This represents a free ride on the Ameritech network because the local charge to the end-user

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[5] Moreover, Ameritech pays reciprocal compensation to Focal to terminate the call on the Focal network.

is not designed to reflect the costs of transport beyond a local calling area: that is what toll rates are for. Focal's FX service creates a situation in which Ameritech's end-use customer receives a free ride to Focal's distant POI and Focal does not compensate Ameritech for it.

Q. Does Ameritech's FX service create a similar free-rider situation?

A. No. Historically, FX service was developed in the context of a single-provider environment. In that context, Ameritech knew that the end users who made calls to the FX customer, like the FX customer itself, would be Ameritech customers. All transport and switching would be provided by Ameritech as well.

Hence, when a customer purchased FX service, it was a relatively simple matter to recoup the costs associated with making calls from, say, Elgin to Chicago, from the purchaser of the FX service in a way that is little different from the way someone who purchases 800 service funds the cost of providing that service at a "toll-free" rate to the end user.

In the single-provider system, therefore, free-riding is not an issue,[6] because costs of the call to the FX customer can be recovered from the FX customer in the FX service price. However, when the carrier providing the FX service differs from the carrier of the party calling the FX customer, the potential for free-riding exists. In a multi-provider environment, a mechanism must be established by which carriers either bear the appropriate costs for the services they provide, or by which they properly compensate one another for services provided to each other, such as transport.

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[6] Except insofar as regulation might result in subsidies or other such compensation to some parties.

Q. Is Focal's VO service concept unique to the telecommunications industry?

A. No. One of the main purposes of FX service is to permit businesses like chat lines, ISPs, or companies with telecommuting employees with the ability to offer customers or employees the opportunity to call them cheaply. This concept is observed in other industries as well. For example, it is not uncommon for casinos to provide free air travel to high-rollers to entice them to the casino when the casino believes that the high-rollers will, on average, lose more by gambling than the cost of the airfare. A stamped postal card offered by a magazine company to potential subscribers is another instance wherein the provider (the magazine company) offers an inducement in the belief that the profits from ultimate subscriptions are sufficient to cover the cost of postage.

Indeed, the practice of creating clever service packages that offer a perceived enticement is so common (and the potential for free-riding that may accompany it is so common) that economics refers to the practice as the "free lunch," a term that both describes the phenomenon and is often used as a caution to consumers that the costs of the enticement are recouped elsewhere in the overall service package. Indeed, the free-lunch term itself is based in the Depression-era practice of saloonkeepers offering sandwiches (of dubious quality) as a way of enticing more drinkers into the bar – and with the anticipation of recouping the sandwich costs thereby.

But whether the instance of the "free-lunch" phenomenon is a closed system such as the saloon (where the saloon-keeper provides both the liquor and the sandwiches) or an open system like the casino/airline or magazine/post-card, all parties in a market-based system are compensated for their participation – or they do not participate. In the end, as the saying goes, "there is no such thing as a free lunch."

The problem with Focal's VO service is that, unlike the casino compensating the airline for the customer's ticket, the magazine company compensating the Post Office for post-card delivery, or the saloon keeper compensating himself (or perhaps the delicatessen next-door) for the cost of the sandwiches, Focal does not compensate Ameritech for providing the free ride on Ameritech's network to the party calling Focal's VO customer.

The purpose of Ameritech's contract language is to ensure that Focal bears the cost of that network free "ticket," either by building the facilities itself, or by leasing them from Ameritech or a third party.

Q. Dr. Aron, it appears to be Ameritech's customer, the party calling Focal's VO customer, who gets the free ride. Therefore, should not Ameritech be required to recover the costs of transport from its own customer rather than from Focal?

A. No. If Ameritech were to recover the transport costs from its own customers, demand for Focal's FX service would decline. After all, the purpose of the VO service is to provide Focal's VO customers with the ability to offer incoming calls at Band A local rates that would otherwise be Band B or Band C rated. If Ameritech were forced to recover its transport costs directly from the end-users who placed the call, the end-user would not receive the benefits of the VO service. Hence, this would reduce the value of Focal's VO service to potential customers. Chat-line providers, for example, do not want Ameritech to impose a transport charge on incoming calls, and doing so would undoubtedly damage

Focal's VO business. That is why the chat-line providers should be willing to pay for those costs as part of the price of the VO service; which in turn would enable Focal to install and use its own facilities to provide the interexchange transport (or to purchase such transport from Ameritech or other third-party providers).

III. FOCAL'S VO SERVICE IS ANTICOMPETITIVE IN THE ABSENCE OF THE REQUIREMENTS OF AMERITECH'S PROPOSED CONTRACT LANGUAGE

Q. Please describe why Focal's free-riding arrangement is not in the public interest.

A. Free-riding is detrimental because it induces inefficient overconsumption of resources, it is anticompetitive, and it inefficiently discourages investment.

Q. Why does free-riding induce inefficient overconsumption of resources?

A. When something is given away without consequence, those with barely a passing interest in the item may be induced to try it. Of course, this is the nature of putatively free inducements such as a travel giveaway to Las Vegas. The casino foots the bill for the giveaway in the hope of later recoupment in the form of higher casino takes. The casino takes into account the cost of the air travel and only gives tickets to gamblers the casino considers worth the investment. But if a free ride truly were to exist – if the casino could freely and without payment somehow provide airline travel coupons to prospective customers good for a free ride – the sky would darken with flights to the desert city. When neither the casino nor the prospective gambler has to pay for transportation, transportation will be used even by the most casual of fun-seekers, much to the frustration of the airline that finds itself with planeloads of non-paying passengers. The problem with this from an economic perspective is that no one demanding the airline's service—

neither the casino, nor the gamblers—would be weighing the cost of the travel against the benefits, as a determinant of how much air travel to consume. Thus, usage of a zero-price resource is excessive given the costs of providing that resource – a social inefficiency and waste.

Q. How is Focal's VO service anticompetitive?

A. The example that I described earlier – where a chatroom customer's call from Elgin is transported over the Ameritech network and is delivered to the Focal switch in downtown Chicago – uses an uncompensated asset (the Ameritech network) to provide part of the service. Focal can price its VO services without regard to the value of the uncompensated Ameritech asset. Accordingly, Focal can underprice an otherwise more efficient competitor who happens not to avail itself of the free ride on the Ameritech network. Just as a casino that could provide airline tickets to high rollers without compensating the airline would have an advantage over casinos who had to pay for the tickets, Focal has a competitive advantage over other telecom service providers that is unrelated to Focal's own efficiency or the quality of its services.

Q. How does Focal's VO service discourage investment?

A. Free-riding generally, and Focal's VO service in particular (as currently configured), discourages investment in telecommunications infrastructure. Focal's VO service is configured so that none of the participating parties – neither the caller, nor the Focal VO customer, nor Focal itself – provides compensation for the use of Ameritech's facilities beyond that associated with a local call, which is the free ride that I have discussed. If Focal can free-ride on Ameritech's transport, then it has less incentive to invest in its own facilities. Moreover, if Focal is free-riding, then Focal's competitors would find it difficult to compete with Focal's FX service unless they too exploited the opportunity for a free ride. Hence, the disincentive for Focal to invest turns investment into a competitive liability for Focal's competitors.

More generally, a free ride disincents investment because there are plenty of eager users of the uncompensated asset but no payers. It would not take long for airlines to change their flight plans and redeploy their investments away from Las Vegas if it were the case that non-paying passengers routinely filled flights to that city.

Q. Have other state commissions recognized that permitting free-riding is contrary to the public interest?

A. Yes. In the case of Ohio Direct Communications (ODC), the Public Utility Commission of Ohio (PUCO) determined that a similar strategy of free-riding was contrary to the public interest.[7] In that case, ODC leased Centrex lines from the local exchange companies and then permitted subscribers to call a number in their home rate center, dial a personal identification number (so that ODC could bill the subscriber for the service) and then dial a subsequent number far outside of the home rate center. The ODC personal computer would "hook-flash" the call to the number and thus, by using call-forwarding, chain-link two local-rated calls. The end-user would obtain intraLATA toll service at the price of a local call, plus a markup by ODC.[8] The end-user benefited by paying less than the going rate for intraLATA toll, ODC made a profit on the service, but

7 Opinion and Order, In the Matter of the Complaint of Ohio Direct Communications, Inc. versus ALLTEL Ohio, Inc., and the Western Reserve Telephone Company, Case No. 95-819-TP-CSS.

8 Ibid. at p. 5.

the local exchange company was not compensated for the use of its network as a result of the free ride.

The Ohio Commission observed that the creativity thus exhibited by ODC was not in the public interest:

> [The PUCO] agree[s] that ODC is a new and innovative company that is providing an alternative service; however, it is also a telephone company pursuant to statute. We do not agree that diversity and innovation should override the existing, lawful tariffs of the LECs. ODC consistently pointed out that anyone with a similar computer can provide the same telecommunications service between the same areas. If we were to allow ODC to continue to receive local services as it currently does, the entire regulatory framework by which the local networks are used would be turned upside down. We do not believe that Section 4927.02, Revised Code, was so intended. Moreover, our ruling does not prohibit ODC from providing service in Ohio. ODC is still capable of providing service; it just must follow the law and pay the appropriate compensation for the services received from other telephone companies.[9]

Similarly, Focal's VO service may be innovative, and it may be an alternative service as well. But, like ODC, it is not in the public interest for Focal to free-ride on anyone's network.

IV. THE AMERITECH PROPOSED CONTRACT LANGUAGE IS GENEROUS

Q. What is Ameritech's new proposed contract language?

A. I understand that the language is:

> **4.3.12** If Requesting Carrier uses an NXX code to provide foreign exchange service to its Customers outside the geographic area assigned to such code, Requesting Carrier shall provide a point of interconnection (POI) within 15

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[9] Ibid. at p. 24.

> miles of the rating point to which the NXX code is assigned, at which Ameritech may terminate local traffic destined for that NXX code.

Q. How does Ameritech's proposed contract language reduce free-riding?

A. From an economic perspective, the proposed contract language says that Ameritech will carry the end-user's call as far as 15 miles from the rate center, absent the separate purchase of transport services by Focal. I understand that the 15-mile radius approximately corresponds to the mileage limit for Band B calling. Thus, the Ameritech proposed contract language says that the company is willing to carry the call within the area that corresponds to a Band A or a Band B call. To the extent that subsequent carriage is required, Focal can build a point of interconnection within 15 miles of the rating center, it can contract with Ameritech for additional carriage to some other place, or it can contract with a third party to pick up the call in the 15-mile radius and transport it to Focal. In each case, Focal bears the cost of the additional transport for its VO service either through building its own facilities, or by leasing or purchasing the use of facilities from others. Hence, for VO services (under any of these approaches), Focal would not obtain the use of the interexchange transport facilities for free, as I understand it currently does.

Q. Does Ameritech's proposed contract language create an unfair barrier to competition by forcing Focal to build out its network unnecessarily?

A. No. To the extent that Focal desires to build its own POIs within the various 15-mile radii of the rate centers corresponding to the NPA-NXXs it assigns for FX service, the task should not be onerous. As Focal's Mr. Tatak points out, Focal has 19 such POIs and already plans to establish "over 100" POIs in Illinois.[10] So, self-provisioning of the POIs does not appear to be something that Focal cannot do.

Moreover, Mr. Tatak argues that transport is cheap. In fact, he cites an Ameritech cost figure indicating that transport costs $.000013 per minute per mile.[11] I would like to make three comments about this cost figure. First, Mr. Tatak has pulled this number from Ameritech's TELRIC compliance filing,[12] but it should be noted that he has omitted a cost element. As I understand it, in order to provide transport, Ameritech incurs costs for transport termination, in addition to transport mileage. The TELRIC rate for tandem transport termination is $.000201 per minute.

Second, these figures are, as I indicated above, TELRIC estimates. That means that, in theory, these numbers reflect the long-run, forward-looking cost of an efficient carrier. If Mr. Tatak really believes that these numbers are accurate, then Focal should be able to provide its own transport at a comparable cost.

Third, if Focal considers it onerous to build out some POIs, or would like to provide service in advance of building its own facilities, then Focal can satisfy the contract language by purchasing transport services from Ameritech or leasing transport from another provider to establish its POI.

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10 Verified Statement of David Tatak, Illinois Commerce Commission Docket No. 00-0027, p. 11.

11 Verified Statement of David Tatak, Illinois Commerce Commission Docket No. 00-0027, p. 12.

12 Illinois Commerce Commission Docket No. 96-0486 / 0569 (Consol.), 1998 UNE Compliance filing.

In sum, Ameritech's language does not require Focal to build out its own facilities, but only to bear the cost of providing transport outside of the local calling area for calls to Focal's FX customers.

Q. Does Ameritech's proposal require Focal to replicate Ameritech's legacy wire center architecture, as argued by Mr. Tatak at page 12 of his Statement?

A. No, for two reasons. First, as I explained above, Ameritech's proposal does not require Focal to build any facilities, but only to bear the costs of the additional transport required on FX calls delivered by Ameritech to a POI outside the caller's Band B local calling area (more specifically, 15 miles from the rate center). It can bear these costs by building out if it chooses, or it can lease the facilities or purchase transport services.

Second, Ameritech's new proposed language is not based on the location of the CO's, as was the previous language to which Mr. Tatak was responding. The old proposal, as I understand it, required Focal to provide facilities-based local exchange service in every wire center associated with NPA-NXX numbers that Focal desired to use for FX services. Under the new proposal, Focal would not have to establish POIs in every wire center associated with such NPA-NXX numbers, but only within 15 miles of the associated rate centers. As Mr. Panfil explains, a 15-mile radius of a typical rate center in the Chicago area will encompass several CO's.

Q. Do you consider Ameritech's proposal reasonable?

A. Yes. In fact, I consider it generous, for two reasons. First, as I have already indicated, the 15-mile radius corresponds to the outermost limit of a Band B call. Typically, Ameritech will bill VO calls as Band A calls, which are generally within a 0-8 mile radius, not a 15-mile radius of the rate center. Indeed, it is my understanding that approximately one-third of Ameritech's own Band A calls are intraoffice calls and require no transport out of the central office at all. In contrast, all of Focal's VO calls will require transport by Ameritech to the Focal POI, which could be as far as 15 miles from the relevant rate center. Hence, under Ameritech's proposal, Ameritech will still typically be providing substantially more transport for a Focal FX call than for a typical Ameritech Band A call.

Second, VO services are marketed to corporations to facilitate low-cost dial-in to their LANs, to chat-line providers, and other such businesses. Because of the nature of these services, these calls are likely to be of significantly longer duration than a typical Band A call.[13] Ameritech pays reciprocal compensation on these calls, and is not disputing its obligation to do so in this docket, so long as that traffic is handed off to Focal at a point within 15 miles of the rating point assigned to the caller's NXX. Nevertheless, the fact is that the reciprocal compensation rate was developed by averaging the set-up costs of terminating a call (which are message-sensitive but not minute-sensitive), over the average duration of a call, to create an average per-minute cost. If certain classes of calls are in fact significantly longer than the assumed average call duration, the averaging methodology will produce a per minute price that is too high for such calls, even if the underlying cost assumptions are accurate. Hence, for a class of calls such as those to

[13] Mr. Panfil provides evidence that typical Internet calls are more than seven times as long as typical Band A calls. Calls to LANs and chat lines are much more like Internet calls than typical local calls, and are likely to have durations closer to those calls than the typical local call.

Focal's VO subscribers, which are likely to be atypically long relative to other local Band A calls, the simple math is that Ameritech will routinely overpay Focal for call termination.

Q. Please summarize your testimony on Issue Number 4.

A. As currently configured, Focal's VO service gets a free ride on the Ameritech network insofar as Ameritech hauls the traffic to Focal's POI and that POI is a significant distance from the home rate center of the caller. I find that despite similarities from a consumer viewpoint, Focal's VO service is unlike Ameritech's FX service from an economic standpoint because Ameritech's service does not obtain a free ride on anyone's network.

Free-riding generally – and in the Focal case specifically – is harmful to the public interest. Focal's free-riding harms the development of competition by putting at a competitive disadvantage others who would offer VO-like services but who do not free-ride. Free-riding results in overuse of a resource because the free-riders do not feel the cost-consequences of their actions. And free-riding disincents investment in infrastructure because providers who invest in infrastructure are disadvantaged in competition with providers who free-ride rather than invest.

I examined Ameritech's new proposed contract language and find that it is generous with respect to the Focal situation. The new language would not harm Focal, but only require Focal to pay for the transport that it uses beyond a 15-mile radius from the end-user's rate center. Focal acknowledges that transport is extremely cheap. The language offers to carry calls to the outermost region of the local (Band B) rating area, even though most VO calls are billed at the Band A rate.

The proposed contract language would not harm Focal or its VO service. The proposed contract language does not require Focal to construct facilities, replicate Ameritech's network, or engage in any inefficient investment. Indeed, the proposed contract language restores a modicum of efficiency to this transaction.

Q. Does this conclude your verified statement?

A. Yes.

State of Illinois)
)
County of Cook)

VERIFICATION

I, Debra J. Aron, first duly being sworn upon oath depose and say that I am Director of the Evanston, Illinois office of LECG, Inc, a unit of Navigant Consulting, Inc; that I have read the above and foregoing Verified Statement by me subscribed and know the contents thereof; and that said contents are true in substance and in fact, except as to those matters stated upon information and belief, and as to those, I believe the same to be true.

Debra J. Aron

Subscribed and Sworn to before me
this 7th day of February, 2000.

"OFFICIAL SEAL"
BETH M. BELKEN
Notary Public, State of Illinois
My Commission Expires 11/30/02

Notary Public

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EDUCATION

Ph.D., Economics, UNIVERSITY OF CHICAGO, Chicago, IL, 1985

Graduate advisors: Sanford J. Grossman (chairman), Edward P. Lazear, and Sherwin Rosen.

A.B. (summa cum laude), Economics, UNIVERSITY OF CALIFORNIA AT LOS ANGELES, Los Angeles, CA, 1979

PRESENT POSITION

LECG, INC., Evanston, IL, 1995-present
Director

ACADEMIC AND PROFESSIONAL EXPERIENCE

NORTHWESTERN UNIVERSITY, J. L. Kellogg Graduate School of Management, Evanston, IL, 1985–1995
Visiting Assistant Professor of Managerial Economics, 1993-1995
Assistant Professor of Managerial Economics, 1985-1992

HOOVER INSTITUTION, 1992-1993
National Fellow

UNIVERSITY OF CHICAGO, Department of Economics, Chicago, IL, 1983–1984
Instructor

CIVIL AERONAUTICS BOARD, Office of Economic Analysis, Washington, DC, Summers, 1979 and 1980
Staff Economist

HONORS & AWARDS

Guthman Research Chair, Kellogg Graduate School of Management, Northwestern University, Summer 1994.

Hoover National Fellowship, Hoover Institution, 1992-1993.

Faculty Research Fellow, National Bureau of Economic Research, 1987-1990.

Pepsico Research Chair, Northwestern University, 1990.

Kellogg Research Professorship, Northwestern University, 1989.

National Science Foundation Research Grant, 1987-1988.

Buchanan Chair, Kellogg Graduate School of Management, Northwestern University, 1987-1988.

IBM Chair, Kellogg Graduate School of Management, Northwestern University, 1986-1987.

RESEARCH INTERESTS

Industrial organization and business strategy, pricing, organization theory, theory of the firm, compensation and incentives, and the relationship between firm structure, human resources, management and incentives.

TEACHING

Courses taught: Intermediate Microeconomic Theory at the undergraduate level, Managerial Economics (microeconomic theory as applied to business strategy and decision making) at the M.B.A. level, The Economics of Information at the Ph.D. level.

New courses developed: Pricing Strategy; Managerial Economics for Manufacturing.

Also qualified to teach: graduate Microeconomic Theory; Industrial Organization and Labor Economics (all levels); the Economics of Personnel, Public Finance, Applied Game Theory (undergraduate or M.B.A levels).

PUBLICATIONS AND WORKING PAPERS

1) "Economic Theories of Tying and Foreclosure Applied—And Not Applied—in *Microsoft,*" with Steven S. Wildman, *Antitrust*, vol. 14, no. 1, 1999, pp.48-52.
2) "Effecting a Price Squeeze Through Bundled Pricing," with Steven S. Wildman, in *Competition, Regulation, and Convergence: Current Trends in Telecommunications Policy Research*, Gillett and Vogelsang, Eds., (New Jersey: Lawrence Erlbaum Associates, Inc.) 1999, pp. 1-17.

3) "Worldwide Wait? How the Telecom Act's Unbundling Requirements Slow the Development of the Network Infrastructure," with Ken Dunmore and Frank Pampush, *Industrial and Corporate Change*," vol.7, no. 4, 1998, pp. 615-621.
4) "The Pricing of Customer Access in Telecommunications," with Steven S. Wildman, *Industrial and Corporate Change*, vol. 5, no. 4, 1996, pp. 1029-1047.
5) "Bonus and Penalty Schemes as Equilibrium Incentive Devices, With Application to Manufacturing Systems," with Pau Olivella, *Journal of Law, Economics, and Organization*, 10, Spring 1994, pp. 1-34.
6) "Diversification as a Strategic Preemptive Weapon," *Journal of Economics and Management Strategy*, 2, Spring 1993, pp. 41-70.
7) "Using the Capital Market as a Monitor: Corporate Spin-offs in an Agency Framework," *RAND Journal of Economics*, 22, Winter 1991, pp. 505-518.
8) "Firm Organization and the Economic Approach to Personnel Management, *American Economic Review*, vol. 80, no. 2, May 1990, pp. 23-27.
9) "The Introduction of New Products," with Edward P. Lazear, *American Economic Review*, vol. 80, no. 2, May 1990, pp. 421-426.
10) "Ability, Moral Hazard, Firm Size, and Diversification," *RAND Journal of Economics*, 19, Spring 1988, pp. 72-87.
11) "Worker Reputation and Productivity Incentives," *Journal of Labor Economics*, vol. 5, no. 4, October 1987, part 2, pp. S87-S106.
12) "Imitation and Differentiation in New Product Markets," under second review at *RAND Journal of Economics*.
13) "Competition, Relativism, and Market Choice," with Edward P. Lazear, C.M.S.E.M.S. Working Paper No. 750, October 1987.
14) "An Empirical Analysis of Agency Theory and the Choice of Merger Partners," mimeo, Northwestern University, August 1987.
15) "The Role of Managerial Ability and Moral Hazard in the Determination of Firm Size, Growth and Diversification," Ph.D. Dissertation, University of Chicago, August 1985.

RESEARCH IN PROGRESS

"The Economics of the Essential Facilities Doctrine," with Wenqing Li.

"Exclusivity versus Non-Exclusivity in the Licensing of Intellectual Property," with Steven S. Wildman.

"Firm Structure as an Informational Barrier to Entry."

"On the War of Attrition in Markets with Endogenous Cost of Capital."

SELECTED TALKS

"Effecting a Price Squeeze Through Bundled Pricing," Federal Communications Commission, Washington, D.C., May 1999.

"Competitive and Strategic Use of Optional Calling Plans and Volume Pricing Plans," The Institute for International Research Conference for Competitive Pricing of Telecommunications Services, Chicago, Illinois, July 1998.

"Effecting a Price Squeeze Through Bundled Pricing," Consortium for Research in Telecommunications Policy Conference, University of Michigan, Ann Arbor, Michigan, June 1998.

"The Pricing of Customer Access in Telecommunications," Conference on Public Policy and Corporate Strategy for the Information Economy, Evanston, Illinois, May 1996.

"Diversification as a Strategic Preemptive Weapon," University of Iowa, Iowa City, Iowa, February 1994.

"Diversification as a Strategic Preemptive Weapon, "University of Buffalo, Buffalo, New York, February 1994.

"Diversification as a Strategic Preemptive Weapon," University of Southern California, Los Angeles, California, December 1993.

"Strategic Pricing" Winter Meetings of the Econometric Society, Discussant, Anaheim, California, December 1993.

"Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets," Michigan State University, Lansing, Michigan, November 1993.

"Diversification as a Strategic Preemptive Weapon," Rutgers University, New Brunswick, New Jersey, November 1993.

"Diversification as a Strategic Preemptive Weapon," University of California at Santa Cruz, Santa Cruz, California, November 1993.

"Diversification as a Strategic Preemptive Weapon," Graduate School of Business, Stanford University, Stanford, California, November. 1993.

"Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets," Purdue University, West Lafayette, Indiana, September 1993.

"Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets," Summer Meetings of the Econometric Society, Boston University, Boston, Massachusetts, June 1993.

"Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets," University of California, Department of Economics, Berkeley, California, May 1993.

"Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets," Stanford University, Graduate School of Business, Stanford, California, May 1993.

"Diversification as a Strategic Preemptive Weapon," Stanford University, Graduate School of Business, Stanford, California, April 1993.

"Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets," Hoover Institution, Stanford, California, April 1993.

"Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets," University of California, Graduate School of Business, Berkeley, California, February 1993.

"Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets," Stanford University, Department of Economics, Stanford, California, February 1993.

"Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets," Hoover Institution, Stanford, California, January 1993.

"Pricing Strategies," Session Discussant, 1992 North American Winter Meeting of The Econometric Society, Anaheim, California, January 1992.

"Diversification as a Strategic Preemptive Weapon," University of Toronto, Toronto, Canada, November 1991.

"Diversification as a Strategic Preemptive Weapon," Queen's University, Kingston, Ontario, Canada, November 1991.

"Bonuses and Penalties as Equilibrium Incentive Devices, with Application to Manufacturing Systems," University of Chicago, Chicago, Illinois, June 1991.

"The Timing of Entry into New Markets," Summer Meetings of the Econometric Society, University of Pennsylvania, Philadelphia, Pennsylvania, June 1991.

"Innovation, Imitation, Productive Differentiation, and the Value of Information in New Markets," University of Chicago, Chicago, Illinois, April 1991.

"Bonuses and Penalties as Equilibrium Incentive Devices, with Application to Manufacturing Systems," Winter Meetings of the Econometric Society, Washington, D.C., December 1990.

"Corporate Spin-offs in an Agency Framework," University of Washington, Seattle, Washington, October 1990.

"The Timing of Entry Into New Markets," University of British Columbia, Vancouver, British Columbia, October 1990.

"Corporate Spin-offs in an Agency Framework," Texas A&M University, College Station, Texas, April 1990.

"Firm Organization and the Economic Approach to Personnel Management," Winter Meetings of the American Economic Association, New York, New York, Dec. 1989.

"Corporate Spin-offs in an Agency Framework," Western Finance Association Meetings, Seattle, Washington, June 1989.

"Corporate Spin-offs in an Agency Framework," University of Rochester, Rochester, New York, May 1989.

"Corporate Spin-offs in an Agency Framework," North American Summer Meetings of the Econometric Society, Minneapolis, Minnesota, June 1988.

"Competition, Relativism, and Market Choice," North American Summer Meetings of the Econometric Society, Berkeley, California, June 1987.

"Competition, Relativism, and Market Choice," University of Chicago, Chicago, Illinois, April 1987.

"Rate Reform and Competition in Electric Power," Discussant, Conference on Competitive Issues in Electric Power, Northwestern University, Evanston, Illinois, March 1987.

"Worker Reputation and Productivity Incentives," New Economics of Personnel Conference, Arizona State University, Tempe, Arizona, April 1986.

"Ability, Moral Hazard, and Firm Diversification," Yale University, New Haven, Connecticut, February 1985.

"Ability, Moral Hazard, and Firm Diversification," University of Rochester, Rochester, New York, February 1985.

"Ability, Moral Hazard, and Firm Diversification," Stanford University, Stanford, California, February 1985.

"Ability, Moral Hazard, and Firm Diversification," University of Minnesota, Minneapolis, Minnesota, January 1985.

"Ability, Moral Hazard, and Firm Diversification," California Institute of Technology, Pasadena, California, January 1985.

"Ability, Moral Hazard, and Firm Diversification," Duke University, Durham, North Carolina, January 1985.

"Ability, Moral Hazard, and Firm Diversification," Northwestern University, Evanston, Illinois, January 1985.

"Ability, Moral Hazard, and Firm Diversification," Brown University, Providence, Rhode Island, January 1985.

"Ability, Moral Hazard, and Firm Diversification," Harvard University, Cambridge, Massachusetts, January 1985.

"Ability, Moral Hazard, and Firm Diversification," University of California - Los Angeles, Los Angeles, California, January 1985.

"Ability, Moral Hazard, and Firm Diversification," University of Pennsylvania, Philadelphia, Pennsylvania, December 1994.

REFEREEING

Dr. Aron has served as a referee for *The Rand Journal of Economics, the Journal of Political Economy, the Journal of Finance, the American Economic Review, the Quarterly Journal of Economics, the Journal of Industrial Economics, the Journal of Economics and Business, the Journal of Economic Theory, the Journal of Labor Economics, the Review of Industrial Organization, the European Economic Review, the Journal of Economics and Management Strategy, the International Review of Economics and Business, the Quarterly Review of Economics and Business, Management Science, the Journal of Public Economics, the Journal of Institutional and Theoretical Economics*, and the National Science Foundation.

TESTIMONY AND OTHER ENGAGEMENTS

For a large newspaper publisher, in the possible acquisition of the San Francisco Chronicle; *analyzed the potential antitrust impediments to an acquisition by the client of the Chronicle, including issues of geographic and product market definition, the interplay between advertising markets and customer markets, and the relevant implications of the Newspaper Preservation Act. 1999.*

For Ameritech Illinois, testimony regarding the proper economic interpretation of the standards for declaring a service competitive under the Illinois Public Utilities Act, 1999, *including discussion of market definition, a new technology-based definition of market share, and the relevance of entry conditions.*

For Rand McNally, in the acquisition of Thomas Brothers Maps. *Analyzed market defiintion, concentration, and efficiencies from the proposed merger*, 1999.

For Ameritech, Affidavit submitted jointly with Robert G. Harris to the Federal Communications Commission in the matter of "unbundled network elements" and commenting on the proper interpretation of the "Necessary and Impair" standard, April 1999; reply affidavit May 1999, *including discussion of entry conditions and the business-case approach to valuation of an entry strategy.*

For Ameritech, "An Analysis of Market Power in the Provision of High-Capacity Access in the Chicago LATA," submitted to the Federal Communications Commission, February 1999, *including an analysis of the US DOJ merger guidelines and their applicability to regulatory relief in a regulated market..*

For Ameritech, "Proper Recovery of Incremental Signaling System 7 (SS7) Costs For Local Number Portability," White Paper submitted to the Federal Communications Commission, April 1999.

For Universal Studios, in the proposed merger between Bertelsmann & Kirsch. *Analyzed the potential anticompetitive effects of control of the programming rights for anchor channels, satellite capacity, and decoder technology. Evaluated potential remedies in media mergers.*

Testimony on behalf of Ameritech Indiana regarding the economics of resale of local exchange services; testimony on behalf of Ameritech Ilinois regarding a new model and methodology for estimating the cost of unbundled local switching; testimony on behalf of Ameritech Michigan regarding the provision of intraLATA toll service to customers of competing basic local exchange service providers; testimony on behalf of Ameritech Wisconsin regarding the determination of proper forward looking costs for purposes of determining Federal Universal Service support; 1998.

For Ameritech, Affidavit submitted to the Federal Communications Commission in the matter of "Telephone Number Portability," regarding competitively neutral cost recovery for shared and common costs for permanent local number portability.

For Ameritech Michigan, Affidavit submitted to the Federal Communications Commission in the matter "Application by Ameritech Michigan for Authorization under Section 271 of the Communications Act to Provide In-Region, InterLATA Service in the State of Michigan."

For Flowers Industries, in the proposed merger between Flowers and Franklin Baking Company. *Analyzed potential efficiencies from the merger, market definition, and potential entry into the relevant geographic market.*

For Optus Vision of Australia, in the proposed merger between Australis and Foxtel. *Analyzed the competitive effects in the Australian pay TV industry of the proposed merger. Specifically analyzed issues of market power in the cable television industry with respect to cable TV programming and the ease of entry and exit.*

The Appraiser's Coalition, et. al, v. Appraisal Institute, et. al, Civil Action No. 93 C 913, U.S. District Court, Northern District of Illinois, Eastern Division *Analyzed issues of market power, market structure, market share, concentration, entry and exit, and antitrust injury.*

Testimony on behalf of Ameritech in Illinois and Wisconsin in state arbitration proceedings pursuant to the Telecommunications Act of 1996, regarding the issue of limitations of liability in provision of telecommunications services; testimony on behalf of Ameritech in five states in proceedings before the state regulatory commissions to determine economic costs of providing unbundled network elements to competitors during the transition to competition pursuant to the Telecommunications Act of 1996; 1996-1997

For the FTC, Revco's proposed acquisition of Rite-Aid. *Analyzed issues of market power, market structure, market share, concentration, entry and exit, and antitrust injury.*

For the Estate of Reginald F. Lewis in Carlton Investments v. TLC Beatrice International Holdings, Inc, Loida Nicolas Lewis, as Executrix of the Estate of Reginald F. Lewis, et al. *Analyzed structure of executive compensation and firm and industry performance to determine whether compensation was in compliance with CEO's fiduciary duty.*

For Telus of Canada, analyzed economic issues pertaining to access to cable television channel capacity, bottleneck facilities, competition, and cost, November 1996.

Reports of Debra J. Aron, "Pricing Strategy for Cellular Telephone Services," October 1994, November 1995. *Examined consumption patterns of cellular telephone services for demand elasticities and evidence of risk aversion, developed* entirely *new pricing strategies for cellular services in each of six major cellular telephone markets, and estimated the likely revenue effects of the strategy change for each market. Also developed and provided software to the client for estimating the revenue effects and the proposed pricing strategies.*

For Ameritech Michigan, testimony submitted to Michigan Public Service Commissionon efficient pricing of local exchange services; testimony submitted to Michigan Public Service Commission on "just and reasonable" price increases in local exchange services; 1995.

"An Analysis of the Marketability of a CPI Future" (with Edward P. Lazear), for the Chicago Mercantile Exchange, February 1985.

Report of Debra J. Aron, "Efficient Pricing of Telecommunications Equipment at the University of Chicago," for the University of Chicago, 1985.

As a Professor at Northwestern University, Dr. Aron has supervised numerous student consulting projects in which pricing strategies were analyzed for industries including health clubs, toys, paper products, food products, athletic shoes, and hardware.

PROFESSIONAL ORGANIZATIONS

Member, American Economic Association

Member, Econometric Society

Associate Member, American Bar Association

PERSONAL INFORMATION

Born: March 15, 1957
Los Angeles, CA

December 1999